

Application No. 10/787,212

**IN THE DRAWINGS:**

Please delete Figures 1A-1C as originally filed with this application. Enclosed is one (1) replacement sheet for Figures 1A-1C, respectively, accompanied by a Letter to the Official Draftsperson. Figure 1A has been amended to remove Chinese characters.

**REMARKS**

**Claim Rejections**

Claims 1-11 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 1, 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vermeulen (3,986,709). The initial word of each clause of claims 1 and 2 should not be upper case.

**Drawings**

Applicant has amended Figure 1A, as illustrated on the attached replacement sheet, accompanied by a LETTER TO THE OFFICIAL DRAFTSPERSON. Figure 1A has been amended to remove the Chinese characters objected to by the Examiner. No "new matter" has been added to the original disclosure by the amendments to the figure. Entry of the corrected replacement sheet is respectfully requested.

**Specification**

The Examiner has rejected claims 1-11 as not being enabled by the specification because the specification does not disclose the number of microscopic perforation required, thus resulting in undue experimentation.

In response, Applicant respectfully reminds the Examiner that Applicant is not required to disclose every specific parameter in a cited patent application. For example, *DeGeorge v. Bernier*, 768 F.2d 1318, 1324, 226 USPQ 758 (Fed. Cir. 1985) states:

"A patent must contain a description that enables one skilled in the art to make and use the claimed invention.... 'An inventor need not, however, explain every detail since he is speaking to those skilled in the art.' *In re Howarth*, 654 F.2d 103, 105, 210 USPQ 689, 691 (CCPA 1981). 'Not every last detail is to be described, else patent specifications, would turn into

production specifications, which they were never intended to be.' *In re Gay*, 309 F.2d 769, 774, 50 CCPA 725, 733, 135 USPQ 311, 316 (CCPA 1962)."

Furthermore, the Federal Circuit has ruled, in *Christianson v. Colt Industries Operating Corp.*, 822 F.2d 1544, 1563, 3 USPQ2d 1241 (Fed. Cir. 1987)

"Patents are not production documents, and nothing in the patent law requires that a patentee must disclose data on how to mass produce the invented product, in patents obtained on either individual parts of the product or on the entire product."

"[T]he law has never required that a patentee who elects to manufacture its claimed invention must disclose in its patent the dimensions, tolerances, drawings, and other parameters of mass production not necessary to enable one skilled in the art to practice (as distinguished from mass produce) the invention. Nor is it an objective of the patent system to supply, free of charge, production data and production drawings to competing manufacturers."

Applicant teaches "said microbubble generating component 18 consists of densely and irregularly arranged microscopic perforation disposed outward from the inside." p. 10, ll. 1-5. Furthermore, Applicant submits that by teaching that "the microscopic nucleation dimensions are based on that of the microscopic perforations of the microbubble generating component" (p. 5, ll. 7-8) and further disclosing that the microscopic bubbles are sized to "less than 35 microns" (p. 5, l. 10), Applicant has fully enabled the skilled artisan to practice the invention without undue experimentation. See *also*, p. 14, ll. 3-8. As noted above, case law is clear and states that just because ***routine*** experimentation may be required, it does not follow that such experimentation is ***undue***.

It follows from the above that Applicant has traversed the Examiner's rejection of claims 1-11 under 35 U.S.C. §112, first paragraph.

**Claim Amendments**

By this Amendment, Applicant has amended claims 1-11 to this application to overcome the Examiner's rejections thereof under 35 U.S.C. 112, second paragraph. It is believed that the amended claims specifically set forth each element of Applicant's invention in full compliance with 35 U.S.C. § 112, and define subject matter that is patentably distinguishable over the cited prior art.

The claims are directed toward: a controllable microscopic bubble nucleation in fluid polymer material production method and its apparatus having, *inter alia*, a **microbubble** generating component at the **front extremity** of a conveyance screw shaft, enabling the gas to be evenly outputted as microscopic bubbles from inside **irregularly arranged** microscopic perforations.

Vermeulen teaches a worm extruder 10 having a worm screw 18 with a central bore 13, the worm screw 18 having openings 16, 17. It is important to note that, as clearly shown in Figs. 2 and 3 the openings 16, 17 are not located in the "front portion of a conveyance screw shaft" (as argued by the Examiner on p. 3 of the outstanding Office Action), but rather are located in the sidewall of the worm screw 18. The Examiner has also argued that the reference teaches that the perforations 16, 17 are "relatively small." Applicant submits that such an unsupported assumption does not teach or suggest microscopic perforations capable of producing microbubbles. Furthermore, the Examiner has not cited any teaching from Vermeulen which teaches or suggests microscopic perforations which are irregularly arranged.

Vermeulen does not teach or suggest: a controllable microscopic bubble nucleation in fluid polymer material production method and its apparatus having a microbubble generating component at the front extremity of a conveyance screw shaft, enabling the gas to be evenly outputted as microscopic bubbles from inside irregularly arranged microscopic perforations. Nor does the reference teach or suggest the method and apparatus of claims 2-11.

It is further submitted that Vermeulen do not disclose, or suggest any modification of the specifically disclosed structures that would lead one having ordinary skill in the art to arrive at Applicant's claimed method.

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It follows from the above that the cited art does not teach or suggest each and every element of Applicant's claims and, thus, cannot support a rejection under 35 U.S.C. § 103.


**Summary**

In view of the foregoing amendments and remarks, Applicant submits that this application is now in condition for allowance and such action is respectfully requested. Should any points remain in issue, which the Examiner feels could best be resolved by either a personal or a telephone interview, it is urged that Applicant's local attorney be contacted at the exchange listed below.

Respectfully submitted,

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